

## On the Virtues and Vices of Combining Theories:

### The Case of Institutional and Actor-Network Theories in Accounting Research

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#### Abstract

This paper examines the possibilities and challenges of combining method theories in accounting research through an analysis of studies which combine insights from institutional theory (IT) and actor-network theory (ANT). We investigate the paradigmatic challenges associated with combining these method theories and whether and how scholars have dealt with such challenges. We demonstrate how the combination of these method theories in a single study gives rise to considerable paradigmatic tensions. The most significant tensions relate to the two method theories' diverging ontological conceptions of the nature of social structures and agency and their very different epistemological views of the role of theory. Moreover, our review of extant accounting research combining IT and ANT indicates that a large number of studies simply ignore such tensions and do not provide deeper reflections on the paradigmatic implications of combining these method theories. Whilst recognizing the substantive contributions emerging from this body of research, we question whether continued rapprochement between IT and ANT is the most appropriate way forward and suggest alternative theoretical paths for examining the institutionalization of accounting. We also call on accounting researchers to exercise much greater reflexivity regarding the paradigmatic implications of combining method theories as well as the more general justifiability of such practices as a vehicle for advancing our understanding of accounting as a social and organizational practice.

**Key words:** accounting, actor-network theory, institutional theory, paradigms, theoretical pluralism.

#### Introduction

Over the past three decades, accounting research evolving within the inter-disciplinary, or “alternative”, tradition has formed a vibrant research programme held together by a strong commitment to theoretical pluralism (see e.g., Lukka & Mouritsen, 2002; Baxter & Chua, 2003; Llewellyn, 2003; Parker, 2012). The main idea of such pluralism is to allow, and even encourage, the use of a broad range of method theories (Lukka & Vinnari, 2014) rather than confining the choice to those method theories derived from economics or psychology as is typical of mainstream accounting research.<sup>1</sup> Whilst this commitment to theoretical pluralism

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<sup>1</sup> Lukka & Vinnari (2014, p. 1309) define domain theory as “a particular set of knowledge on a substantive topic area situated in a field or domain such as accounting” and method theory as “a meta-level conceptual system for studying the substantive issue(s) of the domain theory at hand”. In addition to economics and psychology, accounting scholars have applied method theories originating from, for instance, organization studies and

manifests itself in a variety of ways, an issue attracting increasing attention is the propensity of accounting scholars to combine diverse method theories in a single study and the opportunities and challenges that this creates (e.g., Covalleski, Evans, Luft & Shields, 2003; Jacobs, 2012; Hoque, Covalleski & Gooneratne, 2013; Beattie, 2014; O'Dwyer & Unerman, 2016). Such combinations can range from the selective borrowing and incorporation of elements of one method theory within another, dominant method theory to full-fledged blending of method theories in an attempt to generate “new” theories (Oswick, Fleming & Hanlon, 2011; Suddaby, Hardy & Huy, 2011). Both types of combinations can be an important source of theoretical rejuvenation and are relatively unproblematic as long as the method theories being combined are not too far apart in terms of ontological and epistemological assumptions (Gioia & Pitre, 1990; Schultz & Hatch, 1996; Kakkuri-Knuuttila, Lukka & Kuorikoski, 2008; Mayer & Sparrowe, 2013).

However, in recent years, concerns have increasingly been raised about the tendency of researchers to combine method theories with very different, and even incompatible, ontologies and epistemologies<sup>2</sup> and the challenges this brings to the task of reconciling conflicting assumptions in the process of theory development. Such concerns have emerged in inter-disciplinary accounting research (e.g., Modell, 2013, 2015a, 2015b) as well as the broader management and organization literature (e.g., Okhuysen & Bonardi, 2011; Thompson, 2011) and warrant serious consideration regardless of how extensive the blending of method theories is.<sup>3</sup> Whilst the combination of method theories with incompatible ontologies and epistemologies does not necessarily invalidate the substantive insights emerging from such research, it requires a reflexive approach to theory development. According to Okhuysen and Bonardi (2011, p. 10), such research needs to be accompanied by “a deep discussion of how underlying assumptions can be combined, and especially whether this combination can really be achieved without straining against logical impossibilities”. However, researchers combining various method theories do not always heed such advice. For instance, Cooper, Ezzamel and Willmott (2008) and Modell (2015a) show that researchers combining institutional and critical theories tend to privilege the former and, as a result, compromise key ontological and epistemological assumptions of the latter without offering deeper reflections on such practices. Recent reviews and debates regarding the combination of method theories in management accounting (Hoque *et al.*, 2013, 2015; Modell, 2015b) and public sector accounting research (Jacobs, 2012, 2013; Modell, 2013) suggest that such tendencies towards unreflexive eclecticism may be more widespread in the broader, inter-disciplinary accounting research community.

The objective of this paper is to extend the debate on the paradigmatic implication of combining method theories in inter-disciplinary accounting research through a systematic analysis of

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sociology. We employ this pair of concepts to highlight the auxiliary role that method theories play in accounting studies aiming to contribute to diverse domain theories.

<sup>2</sup> Ontology and epistemology are difficult to define briefly without doing injustice to their complexity. While acknowledging this difficulty, in this paper, ontology refers to different theories' assumptions regarding the nature of reality (Boyd, Gasper & Trout, 1991; for a typology of such assumptions, see e.g. Law, 2004, pp. 24-25), whilst epistemology refers to the nature of scientific knowledge and how such knowledge can be justified (Boyd *et al.*, 1991; Rosenberg, 2016).

<sup>3</sup> According to Okhuysen and Bonardi (2011), the relative attention to ontological and epistemological issues is likely to vary somewhat depending on whether one dominant theory borrows selectively from other theories or whether the theories being combined are placed on a more equal footing. However, both types of combinations require a highly reflexive approach to theory development.

research which combines insights from institutional theory (IT)<sup>4</sup> and actor-network theory (ANT) and, in doing so, we draw attention to the “virtues” and “vices” of such research practices. In his seminal discussion of the development of institutional accounting research, Lounsbury (2008) identified this particular combination of method theories as a potentially promising way forward. Whilst accounting research informed by IT (see Dillard, Rigsby & Goodman, 2004; Ribeiro & Scapens, 2006) and ANT (see Justesen & Mouritsen, 2011; Lukka & Vinnari, 2014) has evolved into two substantial bodies of literature in their own right, we also identify a growing stream of research combining insights from these method theories. Similar attempts to combine IT and ANT can be found in the management and organization literature and have informed several streams of research, evolving under the rubrics of Scandinavian institutionalism (Czarniawska & Sevón, 1996; Sahlin & Wedlin, 2008), institutional work (Lawrence & Suddaby, 2006; Raviola & Norbäck, 2013) and institutional logics (Jones, Boxenbaum & Anthony, 2013). These developments may be seen as a promising avenue for advancing research into the institutionalization of organizational practices. However, as our analysis shows, the combination of IT and ANT constitutes a relatively extreme example of method theories based on incompatible ontological and epistemological assumptions. Exploring such an example allows us to test the limits of how far the ambition to combine method theories in contemporary accounting research can be taken and to critically evaluate how researchers have dealt (or not dealt) with the paradigmatic tensions that arise from such endeavours. Our analysis reveals a widespread lack of reflexivity regarding key paradigmatic tensions associated with the combination of IT and ANT on the part of researchers and leads us to problematize the claims made by Lounsbury (2008) and others that the two method theories can be usefully combined. More generally, we call on accounting researchers to exercise much greater reflexivity concerning the paradigmatic implications of combining method theories. This is particularly important when the method theories being combined rest on diverging ontological and epistemological assumptions. Given that we are exploring a relatively extreme example of such research, our observations should not be taken as an argument for a halt to the combination of method theories. However, we caution against the tendencies towards unreflexive eclecticism, which are occasionally associated with such practices, and urge accounting scholars to also reflect on what makes the combination of method theories a valid scholarly endeavour in a more general, epistemic sense.

The paper proceeds as follows. In the following section, we compare the ontological and epistemological assumptions of IT and ANT and discuss the key paradigmatic tensions which are likely to emerge when the two method theories are combined in a single study. We then present the results of our review of extant accounting literature combining IT and ANT. Finally, we discuss our findings and their implications for future research.

### **Institutional and Actor-Network Theory: A Comparison of Ontological and Epistemological Assumptions**

The following section compares the assumptions embedded in the ontological foundations and epistemological commitments of IT and ANT. Similar to Schultz and Hatch (1996), we pay particular attention to how the evolution of thought within each of these bodies of research has given rise to differences and similarities in such assumptions and whether this creates opportunities for combining the two theories in a logically coherent way. After discussing each

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<sup>4</sup> In the present paper, we confine the notion of IT to new (or neo-) institutional sociology (see Greenwood, Oliver, Sahlin & Suddaby, 2008), which has constituted the key institutional approach for rapprochement with ANT in the accounting literature.

theory in some detail we offer an initial assessment of which paradigmatic tensions are likely to emerge when IT and ANT are combined as method theories in a single study and summarize the main issues of interest in our review of the accounting literature pursuing such a combination.

### *Institutional theory*

#### *Ontological foundations*

In terms of ontology, IT is grounded in a social constructivist view of the world but has undergone a number of changes, implying a varying degree of fidelity to these origins, since its emergence in the late 1970s. In their foundational work, Meyer and Rowan (1977) drew heavily on Berger and Luckman (1967) and described institutions as social constructions which gradually achieve a taken-for-granted, or objectified, status that renders social structures relatively insensitive to the immediate influence of social actors. Even though Meyer and Rowan (1977) recognized the role of collective human agency in the reproduction and transformation of institutions, the emphasis on social structures as relatively objectified and immutable entities implies that the ontology underpinning IT combines a social constructivist view with a more or less pronounced, realist dimension. This represents a form of “depth ontology” according to which social realities are hierarchically structured and at least partly independent of individual actors at any given time (see Leca & Naccache, 2006). The realist conception of social structures was arguably reified as the theory evolved in the 1980s (Meyer, Boli & Thomas, 1994; Tolbert & Zucker, 1996; Bowring, 2000) and institutional environments were portrayed as relatively stable and homogeneous organizational fields, or recognized areas of social life, which are shaped by processes of institutional isomorphism rather than deliberate human agency (DiMaggio & Powell, 1983; Wooten & Hoffman, 2008).

Starting in the late 1980s, this over-socialized view of actors was increasingly challenged (DiMaggio, 1988; Oliver, 1991; Powell & DiMaggio, 1991), and it has since given way to a plethora of work that has sought to resurrect the social constructivist ontology of IT and examine how social actors shape institutions (see Battilana, Leca & Boxenbaum, 2009; Greenwood, Raynard, Kodeih, Micelotta, & Lounsbury, 2011). This signifies a transition to an ontological position that places greater emphasis on the agency implicated in affecting structural change without negating the lingering and often significant influence of pre-existing structures on such changes. Rather than conceiving of human agency as a free-floating and relatively unconstrained phenomenon, most institutional theorists now subscribe to a conception of agency as institutionally embedded and often implicated in a complex interplay with historically contingent structures (Lounsbury, 2008; Lounsbury & Boxenbaum, 2013; Zilber, 2013). Yet, over time, two distinct strands of research, underpinned by slightly diverging ontological emphases, have come to dominate IT. One of these strands has maintained much of the structuralist emphasis, which characterized early advances in IT, whilst the other is made up of a range of approaches which are united by a more actor-centric ontology.

The primary structuralist strand of contemporary IT research is the one evolving under the rubric of institutional logics. This approach evolved from the pioneering work of Friedland and Alford (1991) and has paid considerable attention to how organizational fields either tend to undergo relatively complete shifts between dominant logics or evolve into more heterogeneous and fragmented entities as a result of being structured by multiple and often competing logics (see Thornton & Ocasio, 2008; Thornton, Ocasio & Lounsbury, 2012). Institutional logics are defined as “the socially constructed, historical patterns of material practices, assumptions,

values, beliefs, and rules by which individuals produce and reproduce their material subsistence, organize time and space, and provide meaning to their social realities” (Thornton & Ocasio, 2008, p. 101). Institutional logics have a distinct ontological status in that they shape the ways in which individuals and groups of social actors conceive of the world. Consistent with the notion of human agency as an institutionally embedded phenomenon, the conception of agency associated with institutional change is one that recognizes that human beings have a capacity to act, but that in doing so they draw on diverse logics to render their actions meaningful and consequential. Social actors may also be embedded in multiple institutional logics, which renders their actions less predictable and dominated by a single logic (see e.g., Greenwood & Suddaby, 2006; Battilana & Dorado, 2010; Ezzamel, Robson & Stapleton, 2012; Lander, Koene & Linssen, 2013; Besharov & Smith, 2014; Carlsson-Wall, Kraus & Messner, 2016). However, most research on institutional logics has mainly attended to the structural dimensions of institutional change and has emphasized its evolutionary nature as it unfolds over longer periods of time (Lounsbury & Boxenbaum, 2013; Zilber, 2013, 2017). Hence, similar to earlier advances in IT, the institutional logics approach tends to conceive of at least rapid and radical change as a rather exceptional state that is always conditioned by extant institutions. Moreover, shifts between institutional logics have been seen as a relatively orderly process, which has led to criticisms that much work in the area has effectively subscribed to an ontology which underplays the complexity involved in the reproduction and transformation of institutions (Quattrone, 2015).

The more actor-centric strand of IT comprises several approaches, primarily evolving under the rubrics of institutional entrepreneurship (DiMaggio, 1988), Scandinavian institutionalism (Czarniawska & Sevón, 1996) and, most recently, institutional work (Lawrence & Suddaby, 2006). These approaches have grown out of the criticisms of early advances in IT for neglecting the social processes through which human agents reproduce and transform institutions, but vary in the emphasis placed on agency as an institutionally embedded phenomenon. Research on institutional entrepreneurship initially emerged as an attempt to re-instate a focus on interest-driven actors in IT, but has been criticized for subscribing to an under-socialized, ontological conception of actors as individual change agents and thereby downplaying the problem of collective agency and jettisoning notions of institutional embeddedness (see Hardy & Maguire, 2008; Battilana *et al.*, 2009). Greater concerns with collective agency can be found in Scandinavian institutionalism, which foreshadowed a shift in ontology towards a position which recognizes the possibilities of institutional change as an ongoing and indeterminate process which gradually shapes shared ideas and identities in organizational fields (Czarniawska & Sevón, 1996; Czarniawska, 2008). In introducing this perspective, Czarniawska & Sevón (1996, p. 8) propagated a view of change as “a result of a blend of intentions, random events and institutional norms”, whilst recognizing that any change in organizational practices is inevitably conditioned by extant institutions and that it therefore co-exists with a degree of stability. However, most empirical work within this variant of IT has tended to foreground the intricate social processes through which agents continuously transform institutions and has not really advanced the discussion of the ontological status of actors as institutionally embedded agents (see Czarniawska, 2008; Sahlin & Wedlin, 2008; Boxenbaum & Straandgaard Pedersen, 2009). More concerted efforts to address the latter topic are discernible in research on institutional work, which has sought to develop an ontological conception of individual and collective agency as intentional and interest-driven without reverting to an under-socialized view of actors (Lawrence & Suddaby, 2006; Battilana & D’Aunno, 2009). Empirical work within this stream of research has made important contributions to our understanding of embedded agency (see e.g., Zietsma & Lawrence, 2010; Malsch & Gendron, 2013; Chiwamit, Modell & Yang, 2014; Richardson & Kilfoyle, 2016).

and the originators of the institutional work approach have repeatedly emphasized the need to conceive of agency as an institutionally embedded phenomenon (see e.g., Lawrence, Suddaby & Leca, 2011; Hampel, Lawrence & Tracey, 2015).

### *Epistemological commitments*

By way of over-riding epistemological position, IT is based on a commitment to both inductive and deductive theorizing (Schneiberg & Clemens, 2006; Greenwood *et al.*, 2008). The need for inductive research was made plain in DiMaggio and Powell's (1983) original depiction of organizational fields as they emphasized that the exact nature of such fields cannot be determined a priori, but needs to be discovered through empirical inquiries. However, institutional theorists frequently combine inductively generated insights with a hypothetico-deductive mode of theory development (Schneiberg & Clemens, 2006) and have continuously sought to take stock of emerging research findings in the form of coherent conceptual syntheses (see e.g., Lawrence & Suddaby, 2006; Scott, 2001; Thornton *et al.*, 2012). The deductive element is also manifest in the extensive borrowing and incorporation of concepts and ideas from other social theories as a means of filling conceptual gaps and overcoming limitations in institutional frameworks. This borrowing of elements from other theories has been an important source of innovation and has fostered an ever-expanding theoretical edifice geared towards explaining institutional persistence and change across a range of organizational phenomena and empirical settings (McKinley, Mone & Moon, 1999; Greenwood *et al.*, 2008; Boxenbaum & Rouleau, 2011).

These efforts to continuously refine and extend IT have led several commentators to argue that it is firmly wedded to an essentially realist epistemology (Bowring, 2000; Clegg, 2010), which is underpinned by a strong normal science tradition geared towards continuous theoretical puzzle-solving (Cooper *et al.*, 2008). These normal science inclinations have arguably led institutional theorists to favour theoretical precision and elegance over attempts to explore the more mundane, ongoing and often indeterminate processes through which institutions are being (re-)produced on an everyday basis. This tendency was reinforced by the dominance of quantitative research methods in the early development of IT (Schneiberg & Clemens, 2006) and contributed to the reification of institutions as highly objectified and immutable entities (Bowring, 2000). However, recent critiques suggest that much of the realist, normal science tradition in IT has persisted despite over two decades of research seeking to produce more balanced accounts of how institutions interact with human agency and the increasing propensity to conceive of organizational fields as less stable and homogeneous entities (Zald & Lounsbury, 2010; Zilber, 2013; Modell, 2015a; Willmott, 2015). Researchers working within especially the Scandinavian institutionalism and institutional work traditions have delved into the complex social dynamics which reinforce the indeterminate nature of institutionalization. Yet, doubts remain as to whether this has been accompanied by a shift towards a widely accepted epistemological position which relaxes the impulse to continuously refine and extend IT. Tendencies in this direction are discernible in Scandinavian institutionalism, where researchers have concentrated on producing rich, ethnographic accounts of how institutional processes unfold rather than advancing elaborate theoretical syntheses (Czarniawska, 2008; Sahlin and Wedlin, 2008). However, this has arguably led this stream of research to have relatively limited impact on other strands of IT (Greenwood *et al.*, 2008; Boxenbaum & Straandgaard Pedersen, 2009), most of which continue to display a pronounced normal science impulse. This impulse is particularly strong in research on institutional logics and institutional work, which have both evolved into expansive research programmes held together by an epistemological commitment to continuously refining and extending IT (see Lawrence, Leca & Zilber, 2013; Lounsbury & Boxenbaum, 2013; Hampel

*et al.*, 2015). This has arguably led to a paucity of deeper, real-time analyses of the messy, everyday practices involved in reproducing and transforming institutions (Zilber, 2013, 2017).

The propensity of much IT research to emphasize the orderly and predictable nature of institutionalization has also been reinforced by the relatively fixed and clearly demarcated assumptions about key units of analysis, which follow from its politically conservative epistemology (Cooper *et al.*, 2008; Clegg, 2010; Zald & Lounsbury, 2010). The epistemological bias against more open-ended analyses is especially notable with respect to the narrow conception of which actors matter in organizational fields. Whilst typically following DiMaggio and Powell's (1983) advice to inductively map out the relations between various actors in particular fields and rejecting notions of reductionism (Schneiberg & Clemens, 2006; Wooten & Hoffman, 2008), institutional theorists have generally concentrated their inquiries to a relatively limited range of powerful actors favoured by extant institutions or exerting a dominant influence on institutional change (Lawrence & Suddaby, 2006; Modell, 2015a). This tendency to focus on a small number of elite actors can be traced to DiMaggio and Powell's (1983) emphasis on the State and the professions as the main originators of institutional persistence and change in contemporary Western society. Even though subsequent advances, such as Friedland and Alford's (1991) introduction of the institutional logics perspective, attempted to locate the origins of institutions within wider spheres of society, this relatively narrow conception of relevant actors has continued to permeate institutional analyses. This has fostered a rather unquestioning epistemological approach to the power exercised by social elites (Clegg, 2010; Zald & Lounsbury 2010; Munir, 2015) and has led to repeated calls for widening the scope of institutional analyses to include a broader range of constituencies and examine how their interests are being promoted and hampered. Such calls have especially emerged in the literature on institutional work (e.g., Lawrence & Suddaby, 2006; Lawrence *et al.*, 2011), but empirical research on the topic is still in its infancy (see Lawrence *et al.*, 2013; Hampel *et al.*, 2015) and has arguably been hampered by the normal science impulse of institutional theorists to continuously advance theory development rather than reflecting more deeply on their epistemological priors (Modell, 2015a; Willmott, 2015).

## ***Actor-network theory***

### *Ontological foundations*

In contrast to IT, the ontological premises of ANT<sup>5</sup> cannot be as readily elaborated with reference to traditional categorizations. Instead, ANT's ontology seems best characterized as a mix of relationist, realist and constructivist tendencies, pivoting on the key concepts of actor, network and translation. Whilst the IT conception of an actor is generally limited to human beings (see Jones *et al.*, 2013), in ANT an actor is understood as a more heterogeneous and contingent entity, "any thing that has an effect on another thing" (Latour, 2005, p. 71). In other words, non-human entities are considered as ontologically real and as capable of exercising agency as human beings. This position does not lead to a naïve anthropomorphic conception of material artefacts being endowed with similar capabilities as human beings or of non-humans' actions being driven by intentions, but simply that the form of agency does not in an ontological sense matter as long as it makes a difference in the surrounding world (Latour,

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<sup>5</sup> Our review of the ontological and epistemological features of ANT relies predominantly on the works of Latour, Callon and Law as ANT is generally recognized as having emerged especially from their efforts (Blok & Jensen, 2011; Harman, 2009). Furthermore, we focus particularly on the ideas of Latour as his works form the main source of inspiration for the vast majority of ANT-inspired accounting research (Justesen & Mouritsen, 2011; Lukka & Vinnari, 2014), including most of the studies under review in this paper.

1987). Therefore, ANT studies have always brimmed with non-human actors such as scallops (Callon, 1986a), laboratory paraphernalia (Latour & Woolgar, 1979), microbes (Latour, 1988), law systems (Latour, 2009) and ecological crises (Latour, 2004). Similarly, ANT-informed accounting research has thrown into relief the agency of various accounting technologies, illustrating for instance the emergence of, and effects generated by, calculations, tables, reports, performance measures and information systems (e.g. Preston, Cooper & Coombs, 1992; Robson, 1992; Briers & Chua, 2001; Mouritsen, Hansen & Hansen, 2009; Dambrin & Robson, 2011; Qu & Cooper, 2011; Vinnari & Skaerbaek, 2014; to name but a few).

The second fundamental concept of ANT, that of the actor-network, is defined as “simultaneously an actor whose activity is networking heterogeneous elements and a network that is able to redefine and transform what it is made of” (Callon, 1987, p. 93). In other words, an actor emerges from relational interactions and its characteristics are (re)defined each time it is involved in the dynamics of a network: “the competencies of the actor will be inferred after a process of attribution” (Latour, 1996a, p. 237; see also Callon & Muniesa, 2005, p. 1234). Such relationist ideas are mixed with realist ontological beliefs in the sense that the actors and relations which make up the world are considered to be real at each moment. This view of objects just being there, both independent of our perception and in an a-theoretical sense, suggests that ANT’s ontological position could even be described as naïve realism, a characterization that Latour (2005, p. 156) readily accepts. However, ANT deviates from classical realism by arguing that actors cannot be divided into permanent essential features and accidental superficial properties; an actor is simply the sum of all the properties that it has at a particular moment (Harman, 2009)<sup>6</sup>. Such an emphasis on action and connectedness differs from the clearly delineated actors and stable structures prevalent in much IT research. Another difference to generic realist views is that although ANT views external reality as being independent of human actions and perceptions, it does not consider that reality to be independent of the scientific devices and methods used to examine it (Law, 2004, pp. 31-32). With certain tools and data collection procedures, a certain reality becomes constructed, implying that several realities are in fact possible<sup>7</sup>. For instance accounting tools, formulas and programmes together with those who design and implement them form socio-technical arrangements that perform the reality that they measure (Callon, 1998a, 2007). Such a view also displays a lack of depth ontology, that is, the belief that reality consists of distinct but embedded domains (Elder-Vass, 2008; O’Mahoney, O’Mahoney & Al-Amoudi, 2017), placing ANT in stark contrast with the ontological hierarchy that is at least implicit in IT.

In ANT lexicon, the process of associations through which an entity emerges and acquires its characteristics is known as translation or construction, depending on which aspect of the process is emphasized. The notion of translation stresses the idea that a fact or an innovation does not emerge as a result of a linear development path but is transformed and modified along its unpredictable trajectory. Importantly, it is not only the emerging entity that is modified during such a process but the properties and interests of the actors connected to it are (re)defined as well. Moreover, translation always involves trials of strength in which the persistence of the objects-to-be are tested by other actors (Callon, 1986a); that which is able to resist such trials becomes “real” (Latour, 1987, p. 93). When in turn this process is referred to

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<sup>6</sup> As is characteristic of relationism, these properties are dynamic as they are continuously redefined in networked interactions, even though some of them might be more resistant to change than others.

<sup>7</sup> Whether these diverse realities are understood as “plural” or “multiple” varies between more traditional ANT accounts and those of the so called “ANT and After” school (e.g. Law & Hassard, 1999; Law, 2004; Law & Singleton, 2005; Mol, 2002). Whilst the former focus on examining how one version of reality came into being, acknowledging that alternative realities were possible but never enacted, the latter argue that multiple versions of reality are simultaneously performed through various practices (e.g. Mol, 1999).



as “construction”, the aim is to highlight that the emergence of real objects is a costly, laborious achievement that requires the collaboration of both humans and non-humans. Thus, ANT’s “constructivism” takes into account a wider variety of actors than the human-centred “social constructivism” prevailing in IT (Latour, 2005).

A distinctive feature of ANT’s ontology is its rejection of permanent and pre-existing dualities, whether these relate to agency and structure, nature and society, or language and the world. Such dualities are considered to emerge and become (temporarily) stabilized only at the end of translation processes, after a considerable amount of work has been undertaken to create boundaries between the different elements. Thus, in marked contrast to IT, in ANT the notion of structure as typically defined has no role, except as an object of deconstruction<sup>8</sup>, and hence agency is not considered embedded (for a profound critique of conventional notions of social embeddedness see e.g. Callon, 1998a). ANT’s ontology is flat, meaning, for instance, that structures and other macro-actors are not taken a priori as something larger than micro-actors such as individuals (Latour, 1996a). Instead of forming a pre-existing, immutable context for dynamic agency, structures are viewed analogously to any other actors: they are momentarily stabilised aggregates of local negotiations, controversies and other interactions involving humans and non-humans (Callon & Latour, 1981). However, viewing the world as ontologically flat does not constitute a denial of the existence of structures or power differentials as such, but the re-presentation of both in an anti-essentialist, relationist light. To paraphrase, structural elements may be assumed to pre-exist analysis but then ANT is not the appropriate analytical tool (Latour, 2005); IT or some other social theory can then be employed instead.

Whilst IT understands the world to comprise both stable elements (structures) and change stemming from active agency, ANT considers change to be ubiquitous and intertwined with the on-going transformation of actor-networks. Stability is seen as a rare, temporary and fragile state the persistence of which requires constant maintenance (Callon, 1998b). Thus, ANT studies focus mainly on the dynamics of change, particularly on rapid transformation that often involves the emergence of hybrids, entities in which social and technical elements are inextricably intertwined. In fact, in the absence of change or other dynamics, ANT does not have much to say in comparison to more traditional social theories, such as IT, which can then be employed to yield substantive explanations. However, traditional theories may at times be inadequate to account for instances in which boundaries are fuzzy and it is unclear how a particular entity has been constructed: “New topics, that’s what you need ANT for!” (Latour, 2005, p. 142). In line with this exhortation, ANT scholars have examined, for instance, the advent of microbiology and vaccination (Latour, 1988), the electric vehicle (Callon, 1986b), carbon markets (Callon, 2009), and digital navigation (Latour, 2010). However, this emphasis on innovation has also made ANT susceptible to critique for a lack of sensitivity to the historical contingency of social embeddedness and the possibilities of more enduring forms of structural stability (see e.g., Fourcade, 2007; Elder-Vass, 2008; Yang & Modell, 2015; O’Mahoney *et al.*, 2017).

### *Epistemological commitments*

Whilst institutional theorists aim at refining or extending theory and set out to do this by both induction and deduction, ANT may rather be characterized as being a highly empirical approach with no significant interest in any of the mentioned theorization strategies or reasoning methods. This position derives from ANT’s ambiguous nature as neither a full-blown

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<sup>8</sup> In other words, an ANT scholar can very well conduct a retrospective analysis of how a momentarily stabilized structure has been constructed.

theory nor an exact method in the traditional sense of the word. According to Latour (2005), ANT is an approach for investigating translations without trying to predetermine who the relevant actors are, what connects them to each other, and how the translation process will unfold. The aim of an ANT study is therefore not to yield generalizable propositions but to produce “[o]ne single explanation to a singular, unique case; and then we throw it away” (Latour, 1996b, p. 131). Cases and events are considered unique to the extreme: “everything happens only once, and at one place” (Latour, 1988, p. 162). In other words, constellations and properties of actors and the objects associating them are assumed to change constantly, and we cannot rely on the future emergence of similar events where the explanation forged for one case could be fruitfully employed. It follows that theory in itself is supposed to have no role in ANT, other than as a possible object of research, and the accumulation of knowledge in the normal science fashion seems, if not impossible, then at least a moot exercise (see also Latour, 1999).

As a consequence of this epistemological position, ANT research is expected to focus heavily on developing mere empirical descriptions without framing the inquiries in terms of pre-existing conceptualizations or causal relationships. These descriptions are often based on qualitative field studies and historical analyses (e.g. Latour & Woolgar, 1979; Latour, 1988; Latour, 1996b; Callon & Rabeharisoa, 2008). In line with its anti-essentialist, constructivist ontology, ANT’s key piece of advice to social scientists is that “actors themselves make everything, including their own frames, their own theories, their own contexts, their own metaphysics, even their own ontologies” (Latour 2005, p. 147). Researchers should therefore abstain from making assumptions about the form assumed by agency and instead produce descriptions of how the actors themselves define and order the social whilst deployed in a range of controversies. Such a view is eloquently captured by Law and Singleton (2013, p. 485) who suggest that we consider ANT not as a theory but as “a sensibility, a set of empirical interferences in the world, a worldly practice, or a lively craft that cherishes the slow processes of knowing rather than immediately seeking results or closure”. In particular, construction processes and their particular outcomes should not be explained with reference to traditional sociological conceptualizations such as power, gender, class, religion, or institution, since these are not the drivers but the effects of such processes. Were that to be done, Latour argues, such a practice would have the detrimental effect of reifying and strengthening, for instance, power configurations, and would thus impede rather than facilitate attempts to change them (Latour, 2005). As noted above, this does not constitute a denial of the existence of such elements but merely of their application as *inputs* in an ANT analysis.

### ***Summary comparison of institutional theory and actor-network theory***

The discussion above indicates that IT and ANT differ in several regards in terms of their ontological foundations and epistemological commitments. The main differences between the two method theories are summarized Table 1.

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Insert Table 1 here.

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In terms of ontology, IT may be seen as combining moderate readings of realism and social constructivism and, as such, it is similar to the worldview underpinning most conventional

social theories resting on a notion of social structures as reasonably stable and objectified, albeit not immutable, entities. By contrast, ANT objects to such a worldview and represents a mix of realist, relational and constructivist features. Whilst both IT and ANT contain an element of constructivism, they differ significantly regarding the roles ascribed to pre-existing social structures. IT readily accepts the existence of social structures and places them at the centre of the analysis, whilst in ANT research, it is practically “forbidden” to use any kind of pre-existing structures as a starting point for the analysis of action. Instead, structures are only seen as the (often temporary) effects of ongoing interactions. As a result, the world of ANT is ontologically flat, whereas IT subscribes to a more pronounced depth ontology according to which the world consists of hierarchically layered structures that become more or less objectified over time. Perhaps the most important consequence of these differences in ontological assumptions is that there is no notion of embedded agency in ANT, whilst much contemporary IT research attaches significant weight to the conception of human agency as institutionally embedded and conditioned by historically contingent structures. Another implication is that ANT underscores the agency of non-human actors, whereas IT has conceived of agency as mainly exercised by human beings whilst paying increasing attention to how individual agency is negotiated into collective agency. Finally, even though some strands of IT, such as Scandinavian institutionalism and the literature on institutional work, recognize the need for a more ongoing and indeterminate view of change, institutional theorists have traditionally conceived of change as a relatively exceptional event that is always conditioned by extant institutions. By contrast, ANT views change as ubiquitous and any stability emerging from ongoing translation processes is perceived as a temporary and always fragile state.

As for epistemology, the differences between IT and ANT, which are naturally related to their diverging ontologies, are perhaps even more prominent. The most central and highly significant difference between them relates to the role of theory in empirical analyses. With the possible exception of Scandinavian institutionalism, most IT research has followed a pronounced normal science tradition. Such research typically starts from a relatively firmly established theoretical base, which is then problematized to form a basis for continuous theory refinements and extensions using a combination of inductive and deductive theorizing. As a result of these relatively fixed theoretical priors, IT has also had a rather constrained *a priori* view of which actors matter, although this is perhaps beginning to change as a result of its nascent attention to actors other than those representing social elites. By contrast, ANT objects to this mode of theorizing and views the use of prior theory not as a resource but rather entailing a risk of leading the analysis astray. This *a-theoretical* focus, which is most forcefully emphasized by Latour (1988, 1996b, 2005), makes ANT extremely empirical and also analytically indeterminate in a manner that is alien to most IT research. Even though both IT and ANT are concerned with how action is brought about among a larger collective of actors, the latter theory is deliberately open-ended about which actors and associations matter in the formation of actor-networks and become significant for the analysis. These epistemological differences are likely to present notable challenges to the combination of IT and ANT in a single study. If interpreted literally, the commitment of ANT to avoid *a priori* and cumulative theorizing is indeed incompatible with the normal science aspirations of IT.

Whilst differences between method theories are often taken as an argument for why they may complement each other in a single study (e.g., Schultz & Hatch, 1996; Covalleski *et al.*, 2003; Hoque *et al.*, 2013), the significant ontological and epistemological contrasts between IT and ANT may be expected to generate considerable tensions when the two are used in tandem. The most significant tensions relate to the diverging ontological conceptions of the nature of social structures and agency and their very different epistemological views of the role of theory. In these regards, IT and ANT represent polar opposites: one takes structures and the

embeddedness of agency as given, the other rejects them; one tries to continuously refine or extend theory, the other is rather a-theoretical. The purported benefits of combining IT and ANT need to be evaluated against the backdrop of how researchers have dealt (or not dealt) with these tensions. A lack of attention to such tensions can easily lead to overly eclectic theory development, which imperils the ontological and epistemological consistency of research findings (Okhuysen & Bonardi, 2011; Thompson, 2011).

Prior management and organization research, exploring the possibilities of combining IT and ANT, has mainly emphasized the substantive benefits of combining the two method theories and has largely ignored the tensions discussed above. The most systematic and far-reaching efforts to combine IT and ANT can be found in Scandinavian institutionalism, which has paid ample attention to how the intricacies of institutional change can be understood as a process of translation (see Czarniawska, 2008; Sahlin & Wedlin, 2008). This rapprochement with ANT has reinforced the conception of institutional change as an ongoing and indeterminate process and has cemented the highly actor-centric emphasis of this strand of IT. More limited engagements with ANT can be found in others variants of IT, such as research on institutional work and institutional logics. In their initial elaboration of the concept of institutional work, Lawrence and Suddaby (2006) saw ANT as a useful complement to IT for imbuing institutional analyses with an open-ended view of change and the constantly evolving nature of power relationships. Subsequent advances have drawn attention to how a greater focus on technology and other material practices can enrich our understanding of the role of non-human agency in institutional work (Raviola & Norbäck, 2013) and the material, as opposed to merely ideational, dimensions of institutional logics (Jones *et al.*, 2013). However, little attention has been paid to the question of whether ANT-inspired notions of change and materiality can be reconciled with a conception of human and non-human agency as institutionally embedded phenomena or whether this gives rise to irresolvable ontological tensions. Nor have the tensions emerging from the diverging epistemological commitments of IT and ANT featured prominently in prior discussions of how the two method theories can be combined, although some commentators have expressed concerns regarding the general lack of self-reflection among institutional theorists (Czarniawska, 2008). We now inquire into how such ontological and epistemological tensions have been dealt with in accounting research combining insights from IT and ANT.

## **Review of Accounting Research Combining Institutional Theory and Actor-Network Theory**

Our review of accounting research combining IT and ANT is based on a systematic literature search across eleven major accounting research journals that have published or may be expected to publish research of this kind.<sup>9</sup> Using combinations of key search terms such as “actor-network theory”, “institutional theory”, “sociology of translation”, “networks” and “institution” we searched these journals for relevant papers between 1990 and 2015. The starting point for the review was chosen based on the observation that the first accounting papers making explicit use of ANT were published around 1990 (see Justesen & Mouritsen, 2011; Lukka & Vinnari, 2014). Even though the use of IT in accounting research predates this development, we did not expect these earlier works to incorporate elements of ANT to any

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<sup>9</sup> The journals included in our review are *Accounting, Auditing and Accountability Journal* (AAAJ), *Accounting and Business Research* (ABR), *Accounting, Organizations and Society* (AOS), *British Accounting Review* (BAR), *Contemporary Accounting Research* (CAR), *Critical Perspectives on Accounting* (CPA), *European Accounting Review* (EAR), *Financial Accountability and Management* (FAM), *Journal of Management Accounting Research* (JMAR), *Management Accounting Research* (MAR), and *Qualitative Research in Accounting and Management* (GRAM).

significant extent. In deciding whether to include identified papers in our review we looked for evidence of whether explicit references were made to both IT and ANT and whether reasonably extensive use was made of both method theories to exploit their complementarities. However, given that we are also interested in exploring arguments against combining IT and ANT, we complemented this with a search for papers which make explicit reference to one of these method theories to justify their one-sided use of the other. In total, the literature search generated 16 papers which were deemed relevant for inclusion in our review.

In analyzing the papers under review, we pay particular attention to the ways in which the authors justify the combination of IT and ANT or problematize the relationship between these method theories and whether they recognize and reflect on the paradigmatic tensions associated with their diverging ontological and epistemological assumptions. Even though we are also interested in exploring the substantive contributions which may emerge from the combination of IT and ANT, a focus on researchers' reflexivity is warranted by its significance in the process of theory development (Weick, 1999; Alvesson, Hardy & Harley, 2008; Hibbert, Sillince, Diefenbach & Cunliffe, 2014).<sup>10</sup> As noted earlier, such reflexivity is especially important where method theories with incompatible ontological and epistemological assumptions are combined, since it can play a vital role in ensuring that the production of theoretical knowledge claims does not strain against logical impossibilities (Okhuysen & Bonardi, 2011). To examine the issue of how researchers' reflexivity manifests itself, we found it helpful to categorise the papers into four distinct groups based on a slightly modified version of the taxonomy advanced by Jones and Dugdale (2002). Whilst this taxonomy was originally developed in a rather different context<sup>11</sup> it shares our concerns with whether authors explicitly recognize and reflect on the tensions which may emerge between different research approaches. The four categories of research are defined as follows:

- *Abandon*: The differences between IT and ANT are explicitly recognized and the analysis then proceeds by using only one of these approaches as method theory.
- *Ignore*: The paradigmatic tensions arising from the combination of IT and ANT are *not* explicitly recognized and authors combine elements of both method theories in their analysis without reflecting on this topic.
- *Assimilate*: The paradigmatic tensions arising from the combination of IT and ANT are at least partly recognized but are *not* considered serious enough to preclude their combination and are only subject to limited analysis and reflection.
- *Dramatize*: The paradigmatic tensions arising from the combination of IT and ANT are at least partly recognized and subject to relatively extensive analysis and reflection. These reflections constitute the major focus for advancing a contribution to extant accounting research.

In what follows we review the papers falling into each of these categories and discuss the extent to which tensions, originating in the differences between IT and ANT outlined in Table 1,

<sup>10</sup> In addition to our focus on reflexivity, we conducted a citational analysis to ascertain whether there is mimetic behaviour among researchers which might have reinforced particular understandings of the possibilities of combining IT and ANT (cf. Tolbert & Zucker, 1996). We do not find strong evidence of such behaviour among the 16 accounting papers under review. The proportion of actual to possible cross-references is around ten per cent. Only two of the papers (Modell, 2009; Rautiainen & Scapens, 2013) cite more than one prior accounting study with a similar focus (four citations each). The most widely cited paper is Lounsbury (2008), which is referenced in four other papers (Modell, 2009; Arena *et al.*, 2010; Ezzamel *et al.*, 2012; Rautiainen & Scapens, 2013). However, a lack of mimetic behaviour does not, in itself, constitute evidence of a greater or lesser degree of researcher reflexivity.

<sup>11</sup> The key concern of Jones and Dugdale (2002) was to map differences in scholars' reactions to the various translations of Activity-Based Costing.

emerge and how authors address (or do not address) such tensions. Our analysis is summarized in Table 2. An inspection of Table 2 reveals that the majority of the papers under review fall into the “ignore” and “assimilate” categories and suggests that the paradigmatic tensions associated with the combination of IT and ANT have been subject to little explicit reflection among accounting scholars. This is not to say that the authors of these papers are necessarily unaware of these tensions or that considerations of this topic never featured in their research process. There may be pragmatic reasons, such as journal space limitations, for why reflections on the paradigmatic tensions between various method theories are not made explicit. However, it is worth noting that the relative lack of such reflections mirrors the absence of deeper discussions of the paradigmatic tensions between IT and ANT in the wider management and organization literature.

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Insert Table 2 here.

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### *Abandon*

Only two papers in our sample can be seen as falling into the “abandon” category. One potential reason for this scarcity is that whilst some scholars may have first considered and then abandoned the idea of combining IT and ANT, they have not made this thought process explicit in the final article. However, such scarcity does not preclude the theoretical existence of the category, which is why we have retained it in our analysis. Both of the studies in this category recognize some of the key differences between IT and ANT and then take this as a point of departure for denouncing the former method theory and applying the latter in a relatively faithful manner (Quattrone & Hopper, 2001; Mennicken, 2008). The most extensive reflections on these differences can be found in Quattrone and Hopper (2001). Theirs was an explicit attempt to problematize the ontological conception of change as a linear and predictable process that informs IT. This was seen as representing a modernist conception of social realities as structured by objectified and clearly identifiable institutions and generating knowable outcomes. Whilst recognizing emerging efforts in IT to move away from such a determinate world view and pay greater attention to change as a process, Quattrone and Hopper (2001) criticized it for still portraying change as a reasonably comprehensible phenomenon by the actors involved in its instigation. In contrast to this view of change, they proposed the notion of “drift” as a way of emphasizing the inherently uncertain and serendipitous paths that ongoing change processes take. Based on this ontological conception of change they pursued a line of inquiry heavily inspired by ANT. This implied the adoption of an over-riding epistemological position that was deliberately open-ended and which entailed an explicit lack of a priori theorizing to avoid “further dichotomies between theory, researchers and practice” (Quattrone & Hopper, 2001, p. 407). Consistent with this position, the authors also allowed for relevant actors and relationships to emerge from their empirical analysis and advanced a view of change processes as evolving around “a-centred”, as opposed to clearly delineated, organizations and lacking a finite end-point.

Similar to Quattrone and Hopper (2001), Mennicken (2008) criticized institutional theorists for subscribing to an overly simplistic and linear view of change. Whilst not making her over-riding conception of reality explicit, she took issue with IT-inspired notions of diffusion and isomorphism for “leav[ing] the struggles underlying standardising processes black-boxed” (Mennicken, 2008, p. 390) and replaced them with the concept of translation. Yet, in her

empirical analysis of how international auditing standards are translated into evolving audit practices in Russia she still paid significant attention to how this process was influenced by extant, domestic ideas of auditing. Contrary to “pure” applications of ANT, such as those prescribed by Latour (2005), she can thus be said to have recognized how translation processes are at least partly embedded in pre-existing social structures. However, consistent with other ontological assumptions underpinning ANT, she eschewed notions of embedded agency in her empirical analysis and rather focused on the broad range of human and non-human actors influencing the translation process whilst emphasizing the importance of viewing change as an ongoing process. This view was furthered by the adoption of a relatively open-ended epistemological position where a priori theoretical postulates were limited to some fairly generic statements related to standardization as the empirical domain under examination. This resulted in an emergent view of which actors and relationships came to matter in the translation process and a highly indeterminate view of change which “highlight[ed] the undefined and open nature of the standards” (Mennicken, 2008, p. 390).

The two papers representing the “abandon” category thus problematize IT and thereby justify the use of ANT as the only method theory in these studies. Such an approach highlights some of the alleged advantages of the latter method theory as compared to the former, such as its capacity to convey a more indeterminate view of change through in-depth analysis of evolving actor-networks. It also recognizes how especially the ontological differences between the two method theories make them difficult to combine in a single study. This justifies the use of ANT as a basis for empirical analysis without combining it with concepts borrowed from other method theories. This mode of analysis is consistent with the rather a-theoretical approach recommended by Latour (1988, 1996b, 2005) and implies a relatively high degree of reflexivity regarding its distinct epistemological commitments on the part of researchers. However, it begs the questions of which tensions are actually observable in research combining IT and ANT and how researchers have addressed such tensions. This is the chief concern in the remainder of our review.

### *Ignore*

As noted above, research falling into the “ignore” category does not explicitly recognize the paradigmatic tensions emerging from the combination of IT and ANT whilst pursuing such combinations to a greater or lesser extent. In total, eight papers, or half of all the studies identified through our literature search, were classified into this category (Gendron & Baker, 2005; Modell, 2005; Adolfsson & Wikström, 2007; Ezzamel, Hyndman, Johnsen, Lapsley & Pallot, 2007; Caron & Turcotte, 2009; Ezzamel *et al.*, 2012; Hyndman, Liguori, Meyer, Polzer, Rota & Seiwald, 2014; O’Neill, McDonald & Deegan 2015). With the exception of Gendron and Baker (2005), these studies are all dominated by IT whilst borrowing concepts and ideas, such as translation and the possibilities of non-human agency, from ANT.

A major stream of research within this category draws inspiration from Scandinavian institutionalism (Gendron & Baker, 2005; Modell, 2005; Adolfsson & Wikström, 2007; Ezzamel *et al.*, 2007; Hyndman *et al.*, 2014). Whilst mostly dominated by IT-inspired concerns with how the interplay between extant institutional structures and human agents shapes the institutionalization of new accounting practices, these studies make extensive use of the concept of translation to enhance our understanding of institutional change as an ongoing process. The claimed benefit of borrowing this concept from ANT is that it provides a more fine-grained understanding of how accounting is implicated in the shaping of evolving power relationships (Modell, 2005) and how the meanings of particular accounting practices change

as they traverse different levels of organizations (Adolfsson & Wikström, 2007), policy programmes (Ezzamel *et al.*, 2007) and phases of public policy development (Hyndman *et al.*, 2014). Compared to traditional notions of institutional isomorphism, these studies provide a richer understanding of how accounting practices come to vary as they diffuse within particular institutional settings.

However, similar to the more general development of Scandinavian institutionalism, accounting scholars following this strand of IT have adopted a highly actor-centric approach to institutional change whilst largely ignoring the view of agency as an institutionally embedded phenomenon. Similar to much ANT-inspired research on accounting (cf. Justesen & Mouritsen, 2011; Lukka & Vinnari, 2014), the main emphasis of this research is on how various actors seek to devise new accounting discourses and practices. Even though the general influence of extant institutional structures on translation processes is recognized (see especially Modell, 2005; Hyndman *et al.*, 2014), no serious efforts are made to theorise the possibilities of embedded agency. Probing into these possibilities requires much more detailed attention to how specific structural mechanisms condition individual action repertoires and how such mechanisms constrain and enable the transformation of individual agency into collective action (Battilana & D'Aunno, 2009; Modell, 2015a). Moreover, even though accounting research based on Scandinavian institutionalism has drawn extensively on ANT-inspired notions of change, most of it has honoured the epistemological commitments of IT, including the concomitant normal science impulse to continuously refine and extend the latter method theory. This leaves the epistemological differences between IT and ANT and the tensions arising from their diverging views of theory development largely unrecognized.

The remaining studies in the “ignore” category make more tangential use of ANT concepts, but have also sought to reconcile such concepts with a stronger sense of institutional embeddedness. This includes examinations of how budgets can be understood as a medium through which institutional logics shape organizational action (Ezzamel *et al.*, 2012) and how various institutional constraints shape the translation of accounting reports (Caron & Turcotte, 2009; O'Neill *et al.*, 2015). Of particular interest in this regard is Ezzamel *et al.*'s (2012) study of budgetary reforms in the field of education. Following the institutional logics approach, Ezzamel *et al.*, (2012) complemented their analysis with ANT-inspired notions of performativity (Callon, 1998a) to enhance our understanding of how budgeting is made to act as a material practice and how this gives rise to anticipated and unintended consequences. Budgets were seen as an important mediator between competing logics, exercising considerable influence on evolving organizational practices. Whilst this is consistent with ANT's conception of how non-human actors come to matter, Ezzamel *et al.* (2012) were careful not to detach this phenomenon from the institutional context in which budgets were embedded. Their study can thus be seen as an attempt to incorporate concerns with materiality and the role of non-human actors into IT, without abandoning a view of agency as an institutionally embedded phenomenon. However, no explicit attention is being paid to the ontological tensions emerging from such attempts to reconcile IT- and ANT-inspired notions of agency. The epistemological position adopted by Ezzamel *et al.* (2012) also follows that of IT rather than ANT and displays pronounced concerns with extending theory development with respect to how accounting is influenced by institutional logics.

A similar lack of attention to ontological tensions and an even more pronounced absence of an epistemological position resembling that of ANT are discernible in Caron and Turcotte (2009) and O'Neill *et al.* (2015). In terms of ontology, both studies recognize how extant structures condition the propensity for embedded agency (in the form of path dependencies and institutional constraints on translations). They also recognize the capacity of material



accounting practices to constitute non-human actors and place relatively balanced emphasis on the possibilities of change and stability. However, no attention is paid to the ontological tensions resulting from the reconciliation of such ANT-inspired notions of agency with the idea of embedded agency. Also, in examining how accounting reports take shape, both Caron and Turcotte (2009) and O'Neill *et al.* (2015) adopt an epistemological position relying heavily on deductive theorizing to facilitate the analysis of archival data. This detracts from deeper and more open-ended analyses of how a broader range of human and non-human actors are implicated in indeterminate change processes. In both studies, this led to a view of change as a highly constrained phenomenon with a definite end-point, which is at odds with ANT, but the authors fail to reflect on how their lack of deeper attention to the underlying change dynamics may have reinforced this conception of institutionalization. This illustrates how the adoption of an epistemological position, which is much closer to that of IT than ANT, largely negates the ambition to enrich institutional analyses with insights from ANT. However, the epistemological tensions underpinning this impasse remain unrecognized.

Taken together, our analysis of the studies in the “ignore” category draws attention to the difficulties of combining IT and ANT in a logically coherent way. In particular, the tensions inherent in the reconciliation of IT- and ANT-inspired conceptions of agency and change seems to present an ontological dilemma, which leads researchers to either emphasize one or the other of these conceptions. On the one hand, research drawing heavily on ANT to enrich analyses of institutional change, such as the studies informed by Scandinavian institutionalism, tends to downplay notions of embedded agency. This brings institutional analyses closer to the conceptions of agency prevailing in ANT, but fosters relatively vague notions of how extant institutional structures condition the possibilities of agency and change. On the other hand, studies which try to preserve a stronger sense of how institutions influence agency and change have largely ignored the tensions between such a view and ANT’s open-ended notion of change as an ongoing and indeterminate process. Moreover, most of the studies in the “ignore” category follow the epistemological position associated with IT without reflecting on the justifiability of borrowing concepts from ANT in light of their diverging views of theory development. This is symptomatic of the rather unquestioning normal science tendencies, against which critics of IT have increasingly cautioned (Cooper *et al.*, 2008; Willmott, 2015; Modell, 2015a). As explicated below, such tendencies are also evident in papers entailing a greater degree of reflection on the challenges of combining IT and ANT.

### *Assimilate*

The papers falling into the “assimilate” category include review articles debating *inter alia* the possibilities of combining IT and ANT (Lounsbury, 2008; Modell, 2009) as well as two empirical studies pursuing a similar line of inquiry (Hopper & Major, 2007; Arena, Arnaboldi & Azzone, 2010). The papers classified into this group are all dominated by IT, but entail more explicit recognition of especially the ontological differences vis-a-vis ANT than those falling into the “ignore” category. However, the extent to which this recognition is accompanied by deeper reflections on the paradigmatic tensions resulting from the combination of the two method theories varies somewhat.

Starting with Lounsbury’s (2008) discussion of how accounting practices may be seen as embedded in different institutional logics, we see evidence of an attempt to propagate the use of ANT as a complementary means of studying such practices without abandoning IT as a dominant method theory. Consistent with IT, Lounsbury (2008) explicitly subscribed to a

social constructivist ontology recognizing how reality is structured by extant and emerging logics and how this conditions the possibilities of human agency and the propensity for institutional change and stability. Lounsbury (2008, p. 357) recognized that such an ontological position is “seemingly at odds” with the more indeterminate view of change in ANT, but argued that the latter view is “not antithetical” to conventional conceptions of institutional change and that it can enhance our understanding of the intricate processes through which variations in accounting practices emerge. This position was justified by the argument that “there is always change occurring” (Lounsbury 2008, p. 357) even within what may appear to be very constraining institutional conditions. However, it is not clear how Lounsbury (2008) sees ANT-inspired analyses of change being reconciled with notions of embedded agency, which are strongly emphasized in research on institutional logics. or whether this will lead to a highly actor-centric conception of change similar to that observed in Scandinavian institutionalism. Lounsbury (2008) did not deepen his reflections on this topic or the ontological tensions arising from attempts to reconcile IT- and ANT-inspired notions of agency and change.

Similar tendencies to downplay ontological tensions are discernible in Modell’s (2009) extension of Lounsbury’s (2008) argument to the topic of performance measurement and management. Adopting an ontological position similar to that of Lounsbury (2008), Modell (2009) mobilized ANT as a means of nurturing greater attention to performance measurement as a material practice and a more indeterminate view of change. In doing so, he did not see the social constructivist ontology of IT as an insurmountable barrier to the incorporation of ANT-inspired insights although he recognized the distinct ontological origins of the two method theories. Also, neither Lounsbury (2008) nor Modell (2009) dwelled much on the epistemological implications of combining IT and ANT in individual pieces of research. Their reflections on the paradigmatic tensions associated with such research were thus relatively limited.

Somewhat deeper reflections on the paradigmatic tensions associated with combining IT and ANT can be found in the empirical studies falling into the “assimilate” category. Both Hopper and Major (2007) and Arena *et al.* (2010) paid explicit attention to the ontological differences between IT and ANT, but drew rather different conclusions as to how the two method theories might be combined to advance a more open-ended view of institutional change as an ongoing and indeterminate phenomenon. Hopper and Major (2007) recognized the diverging, overriding views of reality in IT and ANT, whilst primarily leaning towards the former method theory by taking the isomorphic pressures embedded in institutional structures as a starting point for their analysis. This was complemented with an ANT-inspired analysis of how the regulation of costing, based on an activity-based costing approach, was translated within an individual organization and how this caused costing practices to deviate from field-level prescriptions. This mode of analysis is similar to that prescribed by Lounsbury (2008) in that it provides a fine-grained depiction of how practice variations can emerge within broader institutional constraints. However, similar to the accounting studies inspired by Scandinavian institutionalism, Hopper and Major (2007) paid little attention to the notion of embedded agency and thereby ignored ontological questions as to whether IT- and ANT-inspired conceptions of agency can be combined in a logically coherent way.

Greater efforts to retain a sense of embedded agency can be found in Arena *et al.*’s (2010) study of the institutionalization of risk management practices. In contrast to Hopper and Major (2007), Arena *et al.* (2010) explicitly re-interpreted the ontology associated with ANT to accommodate a conception of human agency, which is closer to that of IT, in examining how variations in enterprise risk management emerged across different organizations. In doing so, they advanced the notion of organizational change as an “embedded process of translation”

(Arena *et al.*, 2010, p. 672) which is being conditioned by multiple institutional logics. Whilst this may seem like an innovative way of conceptualizing the notion of translation it is, strictly speaking, incompatible with the ontological foundations of ANT. Hence, even though the ontological differences between IT and ANT are recognized, the authors do not really address the tensions emerging from the attempt to reconcile their diverging views of agency and change.

Our analysis of the studies in the “assimilate” category reinforces the view that researchers who seek to reconcile IT- and ANT-inspired notions of agency and change face a rather intractable ontological dilemma. Similar to the studies in the “ignore” category, accounting researchers seem compelled to either downplay notions of embedded agency or subscribe to an IT-inspired conception of agency which is inconsistent with that of ANT. Moreover, even though ANT concepts are borrowed to nurture a more open-ended analysis of change, researchers mainly follow the epistemological commitments of IT in a rather uncritical manner. The epistemological differences and tensions between IT and ANT are either ignored (Lounsbury, 2008; Modell, 2009) or subject to relatively limited reflections centred on how a more open-ended view of institutionalization can be nurtured (Hopper & Major, 2007; Arena *et al.*, 2010). Hence, similar to the studies in the “ignore” category, the normal science aspirations of IT remain unquestioned and the issue of whether this is compatible with the more a-theoretical epistemological position of ANT is left unaddressed.

### *Dramatize*

The final category of papers includes more extensive reflections on the paradigmatic tensions associated with combining IT and ANT and places relatively balanced emphasis on both method theories as a basis for empirical analysis. Only two papers (How & Alawattage, 2012; Rautiainen & Scapens, 2013) fall into this category. As explicated below, these papers also differ significantly in terms of how they approach the combination of IT and ANT and deal with paradigmatic tensions.

How and Alawattage (2012) set out to highlight the ontological differences between IT and ANT and adopted an explicitly eclectic approach to explain how new accounting practices, emerging from the implementation of an enterprise resource planning system, remained decoupled from operations. In doing so, they applied IT and ANT separately to offer two complementary accounts of this phenomenon and made no efforts to integrate concepts from one method theory into the other. Consistent with the diverging ontological positions underpinning these method theories, IT-inspired notions of decoupling as a stable state embedded in extant institutional structures were juxtaposed to an ANT-inspired account of how ongoing translation processes and negotiations between various actors contributed to maintain this state. The need for such an analytical approach was justified by the insight that the two method theories harbour very different, and not easily reconcilable, views of how organizational change and decoupling are brought about. The ontological tensions between the two perspectives can thus be said to have been recognized and then avoided by the choice of analytical approach. This was facilitated by the adoption of a largely inductive, open-ended epistemological position which allowed two separate analyses to emerge from empirical data and which, according to the authors, “extends the theorisation of decoupling” (How & Alawattage, 2012, p. 404). To some extent, this separate use of IT and ANT lessened the epistemological tensions associated with combining the two method theories. However, the authors did not offer any deeper reflections on this topic and it is thus difficult to discern

whether they recognize the more fundamental epistemological difference between the two method theories related to their diverging views of theory development. Their mobilization of ANT to extend our understanding of a concept primarily associated with IT, such as decoupling (cf. Meyer & Rowan, 1977), suggests that this is not the case and that their attempt to theorize this phenomenon is perhaps yet another example of the normal science aspirations characterizing the latter theory.

In contrast to How and Alawattage (2012), Rautiainen and Scapens (2013) integrated insights from IT and ANT into a unified framework and offered what we believe to be the most exhaustive reflections on the paradigmatic tensions associated with such research to date. Citing several of the earlier attempts to combine IT and ANT (Hopper & Major, 2007; Lounsbury, 2008; Modell, 2009), they sought to take stock of these advances whilst extending their analysis to the implementation of an enterprise resource planning system. In doing so, they advanced relatively extensive reflections on the ontological differences between IT and ANT. Even though the ontological position guiding their analysis leaned towards an IT-inspired conception of translation processes as constrained by extant institutional structures, they clearly recognized the potential tensions associated with such a position and the problems of reconciling it with a more indeterminate view of change. They also offered an insightful empirical account of how institutional constraints conditioned the translation of enterprise resource planning and contributed to a path-dependent process of change.

However, similar to several of the other studies included in our review (e.g., Modell, 2005; Adolfsson & Wikström, 2007; Ezzamel *et al.*, 2007; Hopper & Major, 2007; Hyndman *et al.*, 2014), Rautiainen and Scapens (2013) did not consider the more intractable ontological issue of whether general conceptions of translation as an institutionally constrained phenomenon can be reconciled with a detailed understanding of embedded agency in a logically coherent way. Nor can their analysis be said to have broken with the normal science aspirations of IT. Rautiainen and Scapens (2013) paid significant attention to how IT might need to be modified to reconcile it with the epistemological principles of ANT and nurture an open-ended approach to institutionalisation. Moreover, they offered extensive epistemological reflections on when closer integration between IT and ANT may be most useful and when the two method theories should be used in isolation from each other. In their efforts to place the two method theories on a relatively equal footing, they also paid explicit attention to how IT may refine and extend ANT. However, the more fundamental justifiability of reconciling the epistemologies of the two method theories in light of their diverging views of theory development was left unaddressed. No references were made to Latour's (1988, 1996b, 2005) preference for ANT studies to always progress on a stand-alone basis without researchers imposing theoretical frameworks on those to be studied, although the authors recognized the general "danger of over-theorizing events" (Rautiainen & Scapens, 2013, p. 121) when combining theories.

The discussion above is indicative of how certain ontological and epistemological tensions are difficult to avoid even where researchers display a relatively high degree of reflexivity concerning the challenges of combining IT and ANT. As demonstrated by How and Alawattage (2012), the only way to alleviate some of these tensions might be to apply the method theories separately to provide two distinct, but complementary, accounts of particular substantive phenomena. However, even in their case it is difficult to rid oneself of the impression that the underlying motivation for using the two method theories in tandem originates in the normal science inclinations, which have long characterized IT but which a literal reading of Latour (1988, 1996b, 2005) defies. Unless such literal readings of seminal ANT texts are relaxed, it would seem to be virtually impossible to reconcile the epistemologies of IT and ANT in a logically coherent way. Yet, as we have seen above, some researchers still ignore this tension

and discuss how IT may refine and extend ANT in a manner which is, strictly speaking, inconsistent with the epistemological commitments of the latter theory (see Rautiainen & Scapens, 2013).

## Concluding Discussion

This paper has queried into the challenges facing accounting researchers who combine method theories rooted in diverging ontological and epistemological assumptions through an analysis of studies which combine insights from IT and ANT. The majority of this research is dominated by IT, whilst incorporating concepts and ideas from ANT to fill perceived gaps in the former method theory. As such, our analysis is mainly concerned with a firmly established body of research, which borrows selectively from a particular method theory, rather than radical attempts to develop “new” theories through full-fledged theory blending (cf. Oswick *et al.*, 2011; Suddaby *et al.*, 2011). Nevertheless, similar to the general development of IT over the past decades, accounting scholars have made claims to the effect that such borrowing can make important contributions to our understanding of how accounting practices are institutionalized. The primary, over-riding rationale for combining IT and ANT has been that the latter method theory can enrich the analysis of institutional change as an ongoing and indeterminate process and enhance our understanding of the human and non-human agency involved in the evolution of heterogeneous accounting practices. This has, in turn, enabled accounting researchers to delve into the dynamic nature of power relationships (e.g., Modell, 2005), the performative capacity of accounting as a material practice (e.g., Ezzamel *et al.*, 2012), and the changing meanings of accounting practices (e.g., Adolfsson & Wikström, 2007; Ezzamel *et al.*, 2007; Hopper & Major, 2007; Arena *et al.*, 2010; Rautiainen & Scapens, 2013; Hyndman *et al.*, 2014), whilst preserving a more or less pronounced sense of how such phenomena are conditioned by the institutional environment in which they evolve.

Whilst recognizing these substantive contributions, we have demonstrated how the combination of IT and ANT constitutes a relatively extreme example of method theories based on incompatible ontological and epistemological assumptions and how this generates severe paradigmatic tensions. The most significant tensions relate to their diverging conceptions of the nature of social structures and agency and their very different epistemological views of the role of theory. In terms of ontology, much of the research under review seems to be caught on the horns of a rather intractable dilemma. In dealing with the ontological tensions arising from the combination of IT and ANT, researchers either focus on social actors whilst downplaying notions of embedded agency, which play an increasingly prominent role in IT, or seek to maintain a stronger sense of institutional embeddedness, which is at odds with the conception of agency in ANT. This tendency for research to bifurcate along actor-centric and structuralist lines in explaining the process of institutionalization is reminiscent of Cooper *et al.*'s (2008, p. 692) observation that researchers have long “flip-flop[ped] between ‘structure’ and ‘agency’” in their efforts to continuously refine and extend IT. Our findings also reinforce emerging concerns about the difficulties in reconciling the ontology of ANT with theories grounded in a more structuralist understanding of the world (Elder-Vass, 2008; O'Mahoney *et al.*, 2017). However, the ontological tensions which emerge from the combination of IT and ANT have been subject to little explicit reflection on the part of researchers. In addition, with the exception of Quattrone and Hopper (2001), none of the studies in our review has explicitly recognized the difficulties in reconciling the normal science aspirations embedded in IT with the a-theoretical epistemological commitments of ANT. This lack of attention to key epistemological tensions is perhaps less of a concern, albeit not unproblematic, as long as

research is dominated by IT and mainly unfolds within a normal science tradition (cf. O'Mahoney *et al.*, 2017). However, as we see evidence of in the studies in the “dramatize” category, it becomes more problematic when IT and ANT are placed on an equal footing and where this compels researchers to also consider how the latter method theory may be refined and extended.

Notwithstanding the paradigmatic tensions associated with the combination of IT and ANT, we do not wish to pronounce a moratorium on the efforts to imbue institutional analyses with a stronger sense of how power relationships evolve, how notions of materiality and non-human agency are implicated in institutional processes and how the heterogeneous meanings attributed to accounting practices emerge. However, our analysis raises questions as to whether continued rapprochement between IT and ANT is the most appropriate avenue to this end or whether alternative paths, which are not plagued by the same ontological and epistemological tensions, can be found. Whilst a comprehensive discussion of this topic is beyond the scope of the present paper, we want to suggest a few possible lines of inquiry for future research. Two potentially promising strands of research, which may be more amenable to reconciliation with IT and its increasing emphasis on embedded agency, can be found in the literatures on sociomateriality (Orlikowski & Scott, 2008) and the performativity of market devices (MacKenzie, 2006). Whilst both perspectives owe a considerable intellectual debt to ANT, they are still only loosely connected to its ontological foundations and are arguably better suited for examining the evolving agential powers of accounting as an institutionally embedded phenomenon.<sup>12</sup> In addition to these bodies of research, it may be worth revisiting accounting research informed by the governmentality perspective which, according to Miller and Power (2013), has considerable affinity to IT whilst also incorporating insights from ANT. In particular, this research has a long-standing interest in how accounting plays a constitutive role in organizations and society, which is similar to the concerns with performativity, and it has provided valuable insights into how accounting practices are implicated in a recursive interplay with the institutions that both shape and are being shaped by its evolution.

Regardless of which path is chosen for the future development of institutional accounting research, we urge researchers to exercise much greater reflexivity with respect to the ontological and epistemological premises of such research. Our review reveals a spectrum of reflexivity on the part of researchers. A small number of studies, falling into the “abandon” and “dramatize” categories, entail relatively extensive reflections on whether the combination of IT and ANT in a single study is justifiable and how the paradigmatic tensions associated with doing so might be addressed. But as we have also shown, the vast majority of the papers under review, falling into the “ignore” and “assimilate” categories, include no or relatively limited reflections on these topics. We believe researchers could make the paradigmatic implications of their work more explicit by carefully spelling out how the ontological foundations of the method theories being combined overlap or diverge from each other and how this feeds through into epistemological commitments. This might sensitize researchers to the extent to which the ontological and epistemological assumptions of various method theories can be reconciled. Such reflections do not necessarily need to distract the presentation of substantive research findings and theoretical contributions. However, we also recognize that when method theories are as far apart in terms ontological and epistemological assumptions, as is the case with IT

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<sup>12</sup> In the case of sociomateriality, researchers have long demonstrated a willingness to engage with institutional theorists (Orlikowski & Barley, 2001) and have recently re-cast the effects of sociomaterial practices as a form of embedded agency (Leonardi, 2013). Similarly, MacKenzie's (2006) work has been hailed as a useful corrective to ANT's lack of sensitivity to embeddedness, since he pays greater attention to how the performativity of material artefacts is conditioned by *inter alia* pre-existing social structures (Fligstein & Dauter, 2007; Fourcade, 2007).

and ANT, it may be practically impossible to combine them in a logically coherent way. In such circumstances, researchers need to exercise considerable restraint (Okhuysen & Bonardi, 2011) and avoid the temptation to simply bracket ontological and epistemological assumptions in their efforts to integrate substantive theoretical insights (Schultz & Hatch, 1996). As indicated in the introduction of this paper, such bracketing of ontological and epistemological assumptions seems to be relatively widespread in inter-disciplinary accounting research and has led to criticisms that accounting researchers may be engaging in excessive eclecticism (see Modell, 2013, 2015a, 2015b). Similar to Schultz and Hatch (1996), we see such criticisms as a cause for concern, since it may undermine the combination of method theories as a valid scholarly endeavour.

At the same time, we do not wish to romanticize the notion of researcher reflexivity as a matter of assuming an enlightened epistemological position, free from any of the biases which hinder the objectivation of knowledge (cf. Lynch, 2000), and we recognize that the propensity of researchers to combine method theories and to reflect on such practices is profoundly shaped by the epistemic communities in which they are embedded. Following Bourdieu (e.g., Bourdieu, 1988; Bourdieu & Wacquant, 1992), we accept that the production of scientific knowledge is conditioned by the institutionalized beliefs and practices, or *doxa*, of such communities. However, we also take his lead in arguing that, as members of an epistemic community, we have a collective responsibility to reflect on received research practices in an attempt to objectivize scientific knowledge formation. Whilst we are conscious of the charge against Bourdieu for adopting a hyper-objectivistic approach to reflexivity (Lynch, 2000), we do not want to relativize the production of scientific knowledge to such an extent that established research practices go unquestioned only because they have been accepted as valid by a particular epistemic community. Hence, we recognize the need to not only reflect on the paradigmatic implications of combining particular method theories, but also to engage in deeper epistemic reflexivity (Bourdieu & Wacquant, 1992) as to whether the practice of combining such theories is justifiable or not in a more general sense.

Insofar as the broader, inter-disciplinary accounting research project is concerned, we believe that there is a need for greater epistemic reflexivity as to what justifies the combination of method theories and how this affects our work as an epistemic community. It may be argued that inter-disciplinary accounting research is increasingly steeped in a *doxa* which favours a normal science tradition aimed at constant extension and refinement of method theories to advance substantive insights into accounting as a social and organizational practice (Vollmer, 2009; Richardson, 2017). It is possible that the relatively unquestioning approach to the combination of method theories, which we have documented, is a reflection of this broader trend to favour cumulative theory development rather than delving into the epistemic premises of such practices. Such bracketing of epistemic reflexivity can be helpful as it may unleash researchers' creativity and generate important theoretical advances. As noted by Weick (1999), an inability among researchers to at least temporarily restrain their reflexivity can be paralyzing and can lead to a situation where little substantive progress in theory development is being made. However, we are wary that a lack of epistemic reflexivity can also reinforce tendencies towards excessive eclecticism in an environment where researchers are continuously pushed to advance incremental contributions in a never-ending quest to advance method theories (Weick, 1999; Suddaby *et al.*, 2011).

These concerns have particular significance for researchers employing the two method theories examined in the present paper. We see a particular risk of accounting research informed by IT remaining susceptible to criticisms for excessive eclecticism, unless the tendency to borrow from other method theories is combined with greater reflexivity on the justifiability of doing

so. Over the years, institutional theorists have arguably engaged in little reflection on their research practices as an epistemic community (Cooper *et al.*, 2008; Czarniawska, 2008) and the strong normal science tradition permeating inter-disciplinary accounting research is also unlikely to stimulate such reflections. Accounting scholars informed by ANT face a largely reverse dilemma. As we have demonstrated in this paper, a literal reading of especially Latour (1988, 1996b, 2005) puts ANT at odds with any normal science tradition aimed at cumulative theory development. Yet, accounting scholars using ANT are presumably subject to the same demands to advance incremental theoretical contributions as the rest of the inter-disciplinary accounting research community. Further research is required into how accounting researchers with a strong commitment to ANT have responded, and how they could respond, to such demands. If such analyses reveal traces of normal science aspirations, similar to those observed in IT, then it is legitimate to raise concerns about how the doxa of the inter-disciplinary accounting research community compels researchers to deviate from key paradigmatic assumptions of the method theories employed. This would, in turn, reinforce our concerns about the tendencies towards eclecticism in this community.

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Table 1. Comparison of the key ontological and epistemological assumptions of institutional and actor-network theories.

	<b>Institutional theory</b>	<b>Actor-network theory</b>
<i>Ontological foundations</i>		
Over-riding conception of reality.	The real is socially constructed, but realist dimension also recognized as social structures become objectified over time (depth ontology).	Whilst the real emerges in a relational and constructed manner, objects are fully real at any given moment as in naïve realism. An actor does not exist outside its relations to others. All actors are on the same level (flat ontology).
Conception of social structures.	Structures exist as socially real entities which condition, but are ontologically distinct from, human agency.	Structures are not immutable, pre-existing entities that condition agency. They can emerge and become temporarily stabilized only at the end of a translation process.
Conception of agency.	Human agency is institutionally embedded and conditioned by historically contingent structures. Increasing attention to collective agency.	Agency is not embedded. Human and non-human entities (actants) continuously interact and both have the capacity to exercise agency.
Conception of change and stability.	Change is a relatively exceptional and episodic state and is always conditioned by extant institutions.	Change is ubiquitous and intertwined with the on-going transformation of actor-networks. Stability seen as a temporary and fragile state.
<i>Epistemological commitments</i>		
Over-riding epistemological position.	Empirical/inductive, but also entailing important deductive element.	Highly empirical, pursuing unique descriptions and being open to all possibilities. Induction and deduction do not play any significant role.
Role of theory	Normal science view aimed at continuous theoretical refinement and extensions.	Theory has no role in ANT itself, making the analysis indeterminate.
Prior assumptions about units of analysis.	Relatively fixed and clearly demarcated a priori assumptions about which actors matter, although the exact nature of institutional environments can only be discovered through empirical investigation.	Deliberately open-ended about which actors and relationships matter in the formation of actor-networks.

Table 2. Summary of the review of accounting studies combining IT and ANT.

Study, journal and dominant method theory.	Ontological assumptions				Epistemological commitments		
	Over-riding conception of reality.	Conception of social structures.	Conception of agency.	Conception of change and stability.	Over-riding epistemological position.	Role of theory	Prior assumptions about units of analysis.
<i>Abandon</i>							
Quattrone and Hopper (2001), <i>MAR</i> , ANT dominant.	Rejecting modernist views of social realities as structured by objectified institutions.	Extant structures downplayed.	No attention to embedded agency whilst non-human actors recognized.	Continuous change as “drift” emphasized.	Explicitly open- ended to avoid preconceived notions of practice.	Little a priori theorizing. ANT proposed as alternative to IT.	Open-ended, emergent view of which actors and relationships matter.
Mennicken (2008), <i>AOS</i> , ANT dominant.	Not made explicit.	Extant structures driving diffusion and isomorphism downplayed but influence of extant ideas recognized.	No attention to embedded agency whilst non-human actors recognized.	Ongoing and indetermi-nate nature of change emphasized.	Relatively open- ended although influence of extant ideas recognized.	Little a priori theorizing. ANT notion of translation proposed as alternative to IT notion of diffusion.	Open-ended, emergent view of which actors and relationships matter.
<i>Ignore</i>							
Gendron and Baker	Not made explicit.	No attention to extant structures, but	No explicit attention to embedded	Main emphasis on change/ creation of focal	Relatively open- ended analysis but some predefined	ANT dominant but extended with notions	Open-ended, emergent view of

(2005), <i>EAR</i>  ANT dominant		dependence of focal network on supporting networks recognized.	agency or non-human actors.	network but some attention to stabilisation of network.	theoretical concepts used.	of imitation and institutional-isation.	which actors and relationships matter.
Modell (2005),  <i>AAAJ</i> ,  IT dominant	Not made explicit.	Attention to extant structures in the form of institutional constraints.	No explicit attention to embedded agency or non-human actors.	Main emphasis on change but also attention to stabilising role of resistance.	Deductive derivation of theoretical concepts but largely inductive analysis.	IT dominant but extended with notion of translation to understand power/politics.	Relatively open-ended view of which actors matter, but confined to focal organizational field.
Adolfsson and Wikstrom (2007),  <i>FAM</i> ,  IT dominant	Not made explicit.	Attention to extant structures in the form of existing identities.	No explicit attention to embedded agency or non-human actors.	Ambition to study both but main emphasis on change (except for stabilising effects of decoupling).	Deductive derivation of theoretical concepts but largely inductive analysis.	IT dominant and extended with notion of translation.	Key organizational actors largely predefined.
Ezzamel et al. (2007),  <i>AAAJ</i> ,  IT dominant	Not made explicit.	Extant structures recognized but main emphasis on creation of new institutions.	No explicit attention to embedded agency or non-human actors.	Change emphasized.	Deductive derivation of theoretical concepts but largely inductive analysis.	IT dominant and extended with notion of translation to understand process of change.	Key field-level actors largely predefined.

Caron and Turcotte (2009), <i>AAAJ</i> , IT dominant	Not made explicit.	Extant structures and their effects on path dependencies/ creation recognized.	Some conceptual attention to embedded agency and materiality but not receiving empirical attention.	Conceptual framing recognizing both but empirical analysis underlining stabilising role of institutions.	Most theoretical concepts pre-defined but combination of deductive and inductive approaches.	IT dominant. IT-inspired notion of agency juxtaposed to ANT to explain path dependence/ creation.	Key actors pre-defined (institutional entrepreneur and adopters).
Ezzamel et al. (2012), <i>AOS</i> , IT dominant.	Not made explicit.	Interplay between extant and emerging structures in the form of institutional logics recognized.	Explicit attention to agency as embedded in institutional logics and the performative role of budgets as material practice.	Relatively balanced emphasis on both.	Deductive derivation of theoretical concepts combined with more inductive analysis.	IT dominant but extended with ANT-inspired notions of performativity to develop a sense of agency.	Key field-level and organizational actors pre-defined
Hyndman et al. (2014),	Not made explicit.	Attention to extant structures in the form of sediments.	No explicit attention to embedded agency or non-human actors.	Main emphasis on change in discourse but also attention to continuity.	Deductive derivation of theoretical concepts and categories of	IT dominant but extended with notion of translation.	Organizational fields and levels of analysis predefined.

<i>CPA</i> , IT dominant					discourse pre- defined.		
O'Neill et al. (2015),  <i>AAAJ</i> ,  IT dominant	Not made explicit.	Institutional structures and isomorphism conditioning scope of  translations.	Some conceptual attention to embedded agency and materiality but little empirical attention to  performativity.	Conceptual framing recognizing both but empirical analysis underlining stabilising role of institutions.	Highly deductive theorizing entailing a priori hypothesis development.	IT dominant and used to frame ANT concepts of inscription and translation.	Unit of analysis predefined but some attempt to problematize extant classification of outcomes.
<i>Assimilate</i>							
Hopper and Major (2007)  <i>EAR</i> ,  IT dominant.	Diverging ontologies in IT and ANT recognized.	Attention to extant structures as a source of isomorphism.	Little explicit attention to embedded agency or non- human actors.	Change emphasized but stabilising role of resistance also recognized.	Deductive derivation of theoretical concepts but largely inductive analysis.	IT dominant, but complemented with ANT to explain indeterminate nature of change process.	Organizational fields and levels of analysis predefined but open- ended view as to which actors matter.
Lounsbury (2008),  <i>AOS</i> ,	Explicit subscription to social constructiv- ist ontology.	Emphasis on interplay between extant and emerging institutional logics.	Explicit attention to embedded agency.	Relatively balanced emphasis on both.	Analytical concepts clearly defined but also emphasis on inductive research.	IT dominant but extended with ANT notions of networks and performativity.	Largely predefined.

[illegible]

How and Alawattage (2012)  <i>CPA</i> , balanced emphasis on IT and ANT.	Separation of IT and ANT signifying recognition of different ontologies.	Recognition of extant institutional structures as part of IT analysis.	No attention to embedded agency. Extensive discussion of materiality/performativity as part of ANT analysis.	Attention to change but stability emphasized due to robustness of decoupling.	Largely inductive analysis to generate separate theoretical accounts.	IT and ANT applied separately to advance alternative explanations of decoupling.	Unit of analysis predefined but relatively open-ended as to which actors and relationships matter.
Rautiainen and Scapens (2013),  <i>QRAM</i> , balanced emphasis on IT and ANT.	Extensive discussion of differences in ontology.	Extant institutional structures seen as constraints on translation processes.	Embedded agency implicit in notion of “constrained transformations”, but not explicitly mobilized.  Some attention to materiality.	Relatively balanced emphasis on both but empirical findings emphasizing stability (path dependence)	Deductive derivation of theoretical concepts but largely inductive analysis.	Equal emphasis on IT and ANT and extensive discussion of similarities and differences.	Unit of analysis predefined but relatively open-ended as to which actors and relationships matter.